

HTML 5

- Background
 - Replacement for HTML 4 and XHTML
 - Several forks divided over XML
 - Finally gave up and chose to do a revised version of HTML
 - Compatibility was key
 - Timeline
 - Work started in 2004
 - First Draft in January 2008
 - Finalizing will take years
 - Features are being solidified though
 - Being worked on jointly W3C and Web Hypertext Application Technology Working Group (WHATWG)
 - Currently still in draft format
 - Several browsers are implementing parts of HTML5: Safari, Chrome, Opera and Firefox
- Philosophy
 - WHATWG studied how browsers actually handle HTML
 - Worked with browser makers
 - Presentation elements further removed
 - Poor accessibility
 - High cost of maintainance
 - High document sizes
- Syntax
 - Double quotes, single quotes and no quotes is okay
 - Trailing Slashes Not Required (e.g. the br, img and input elements)

Walking through a page

Start at the Beginning or Technical Mumbo Jumbo

- doctype
 - simple: `<!DOCTYPE html>`
 - Previous: `<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">`
 - forces standards mode
- `<html>`
 - Simplified: `<html lang="en">`
 - Previous: `<html lang="en" xml:lang="en" xmlns="http://www.w3.org/1999/xhtml">`
 - Implies xhtml namespace
- `<head>`
 - Same as always
- `<meta>`

- Simplified: `<meta charset="utf-8" />`
 - Previous: `<meta http-equiv="Content-Type" content="text/html; charset=utf-8" />`
- Assumes HTML MIME
- `<link>`
 - `rel="stylesheet"`
 - Simplified: `<link rel="stylesheet" href="style-original.css" />`
 - Previous: `<link href="/style/structure.css" rel="stylesheet" type="text/css" />`
 - No need for type since the only type of stylesheet on the web is CSS
 - Others: `rel=" "`
 - icon
 - author
 - archives
 - license
 - prefetch
 - search

New Elements

- `<section>`
 - a thematic grouping of content, typically with a heading
 - A Web site's home page could be split into sections for an introduction, news items, contact information.
- `<nav>`
 - Contains core navigation items for a site or page
- `<article>`
 - self-contained composition in a document, page, application, or site and that is intended to be independently distributable or reusable, e.g. in syndication
 - This could be a forum post, a magazine or newspaper article, a Web log entry, a user-submitted comment, an interactive widget or gadget, or any other independent item of content
- `<aside>`
 - A sidebar
 - Content that is related to but not essential to its parent content
- `<hgroup>`
 - Grouping of h1-h6 elements
 - Used to hide sub headers from outline
- `<header>`
 - Just what it sounds like
 - Can be used for the page over all and inside sections
- `<footer>`
 - Just what it sounds like
 - Can be used for the page over all and inside sections
- `<time>`
 - Indicates a date/time
- `<mark>`

- Used for emphasis or highlighting

Finally Content or Bye, Bye divs

- Moving towards separation of markup and content. Want our markup to have meaning.
- Divs and ids don't have inherent meaning
- Use new elements to help weave meaning into the webpage
- Better search results better reuse of content

Before

```
<div class="entry">
  <p class="post-date">October 22, 2009</p>
  <h2>
    <a href="#"
      rel="bookmark"
      title="link to this post">
      Travel day</a>
  </h2>
  <p>Lorem ipsum dolor sit amet...</p>
</div>
```

Creating an Outline

- <header>
 - Enclosing logos and h1 tags
 - Problem of subheads
- <article>
 - Great for blog post
 - Problem with assembled content
 - HTML 4 only had h1-6 to create outline
 - Makes it difficult with WCMS
 - HTML5 allows you to start over for each section
 - Add a header with h1 tag
 - Could add footer
- <time>
 - <time datetime="2009-10-22" pubdate>October 22, 2009</time>
 - datetime attribute is machine readable
 - between the tags can be anything
 - pubdate
 - Within article it references just that article
 - Outside article means entire document

After

```
<article>
  <header>
    <time datetime="2009-10-22" pubdate> October 22, 2009</time>
```

```
<h1>
  <a href="#"
    rel="bookmark"
    title="link to this post">
    Travel day</a>
</h1>
</header>
<p>Lorem ipsum dolor sit amet...</p>
</article>
```

Navigation

- <nav>
 - defines navigation area
 - important for screen readers

Before

```
<div id="nav">
  <ul>
    <li><a href="#">home</a></li>
    <li><a href="#">blog</a></li>
    <li><a href="#">gallery</a></li>
    <li><a href="#">about</a></li>
  </ul>
</div>
```

After

```
<nav>
  <ul>
    <li><a href="#">home</a></li>
    <li><a href="#">blog</a></li>
    <li><a href="#">gallery</a></li>
    <li><a href="#">about</a></li>
  </ul>
</nav>
```

Footer

- Can include “fat footers” like on the SMU homepage

After

```
<footer>
  <p>&#167;</p>
  <p>&#169; 2001&#8211;9 <a href="#">Mark Pilgrim</a></p>
</footer>
```

Forms

- placeholder
 - `<input name="q" placeholder="Search Bookmarks and History">`
- AutoFocus
 - `<input name="q" autofocus>`

New Input Types

- Email
 - "email"
 - Older browsers treat as text
 - iPhone uses special keyboard
- Web Address
 - "url"
 - iPhone custom keyboard
- Number
 - spinbox
 - iPhone custom keyboard
- Range
- Date, Month, Week, datetime, datetime-local
- Search
- Color picker
 - No support yet

Auto Validation

- Works for Opera
- No other browser, yet

Specialized Elements

Canvas

- Use javascript to draw things in a box
- Importance
 - Can dynamically create graphics on the client side
 - Reduces dependence on flash

Video and Audio

- With HTML5 video is baked into browser
- No plugins, like flash, needed
- Problem is formats, they must be built into browsers, creates licensing issues
 - Google announced WebM format on Tuesday. Will likely be the standard

- h.264 is also supported by most browsers, not Firefox

```
<video width="320" height="240" controls preload>
  <source src="pr6.mp4" type='video/mp4; codecs="avc1.42E01E, mp4a.40.2"'>
  <source src="pr6.webm" type='video/webm; codecs="vp8, vorbis"'>
  <source src="pr6.ogv" type='video/ogg; codecs="theora, vorbis"'>
</video>
```

Location

- Supported mainly by iPhone and Android
- Firefox supports
- Opt-in

Offline

- In html tag you provide a link to a “cache.manifest” file that lists files needed
-

When Can I start using it?

- In general, when IE9 comes out. Maybe late 2010 or early 2011
- Maybe now, if you are developing for mobile devices
- There are work arounds for older browsers

The Appendix

- Elements Thrown Away
 - <acronym>
 - <applet>
 - <basefont>
 - <big>
 - <center>
 - <dir>
 -
 - <frame>
 - <frameset>
 - <noframes>
 - <s>
 - <strike>
 - <tt>
 - <u>
 - <xmp>
- New Tags
 - article
 - section

- aside
- hgroup
- header
- footer
- nav
- time
- mark
- figure
- figcaption

Websites for reference

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